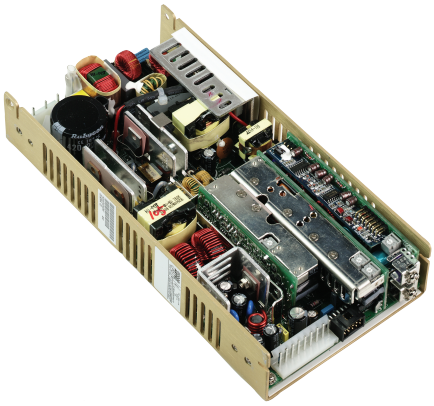
175 Watts
LPQ170 Series

Total Power:	**110-175 Watts**
Input Voltage:	**85-264 VAC**
	120-300 VDC
# of Outputs:	**Quad**



Special Features

- Active power factor correction
- IEC EN61000-3-2 compliance
- Adjustable outputs on 1, 3 & 4
  Remote sense on main output
- Single wire current sharing
- Power fail and remote inhibit
- Built-in EMI filter
- Low output ripple
- Overvoltage protection
- Overload protection
- Thermal overload protection
- DC power good
- 5 V standby output
- Adjustable floating 4th output
- Optional cover (-C suffix)

Environmental

Operating temperature: 0° to 50°C ambient

Low temperature start -20°C

Derate each output at 2.5% per degree from

50° to 70°C (except for -C version)

Electromagnetic susceptibility: designed to meet EN61000-4, -2, -3, -4, -5, -6, -8, -11, Level 3

Humidity: Operating; non-condensing 5% to 95%

Vibration: Three orthogonal axes, sweep at

1 oct/min, 5 min. dwell at four major resonances 0.75 G peak 5 Hz to 500 Hz, operational

Storage temperature: -40° to 85°C

Temperature coefficient: ± .04% per °C

MTBF demonstrated: >550,000 hours at full load and 25°C ambient conditions

Electrical Specs

Input

Input range	85-264 VAC, 120-300 VDC
Frequency	47-63 Hz
Inrush current	38 A max, cold start @ 25°C
Efficiency	75% typical at full load
EMI filter	Meets FCC Class B conducted CISPR 22 Class B conducted EN55022 Class B conducted VDE 0878 PT3 Class B conducted
Power factor	0.99 typical
Safety ground leakage current	1.0 mA @ 50/60 Hz, 264 VAC input

Output

Maximum power	110 W convection (75 W with cover LPQ172) 85 W convection - LPQ173 175 W with 30 CFM forced air (130 W with cover - LPQ172 only)
Adjustment range	3.3 - 5.5V on main; -12 - 15V on 3rd output 3.3 - 25 V on 4th output- LPQ172 3.3 - 5.5V on 4th output on LPQ173
Hold-up time	20 ms @175 W load at nominal line
Overload protection	Short circuit protection on all outputs. Case overload protected @ 110-145% above peak rating
Overvoltage protection	Tracks outputs 1, 3 & 4; 15 to 35%
Standby output	5 V @ 200 mA regulated ±5%

Logic Control

AC power failure	TTL logic signal goes high 100 - 500 msec after V1 output; It goes low at least 4 msec before loss of regulation
Remote inhibit	Requires contact closure to inhibit outputs
Remote sense	Compensates for 0.5 V lead drop min. Will operate without remote sense connected. Reverse connection protected.
DC-OK	TTL logic signal goes high after main output is in regulation. It goes low when there is a loss of regulation

Safety

VDE	0805/EN60950/IEC60950
UL	60950
CB	Certificate and report
CSA	CSA 60950 Level 3
CE	Mark (LVD)
NEMKO	EN 60950/EMKO-TSE

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Ordering Information

Model Number	*Output Voltage*	*Minimum Load*	*Maximum Load with Convection Cooling*	*Maximum Load with 30 CFM Forced Air*	*Peak Load*	*Regulation2*	*Ripple P/P(PARD)3*
LPQ172	5 V (3.3 - 5.5 V)	0 A	15 A	30 A	32 A	±2%	50 mV
	12 V	0 A	6 A	8 A	10 A	±3%	120 mV
	-12 V (-12 -15 V)	0 A	1.5 A	3 A	3.5 A	±3%	<1%
	±3.3-25 V	0.5 A*	2 A	5 A	5.5 A	±3%	<50mV or 1%
LPQ173	5 V (3.3 - 5.5 V)	0 A	10 A	24 A	26 A	±2%	50 mV
	12 V	0 A	6 A	8 A	10 A	±3%	120 mV
	-12 V (-12 -15 V)	0 A	.2 A	3 A	3.5 A	±3%	<1%
	5 V (3.3 - 5.5 V)	0 A	10A	24 A	26 A	±2%	50mV

1. Peak current lasting <30 seconds with a maximum 10% duty cycle.
2. At 25°C including initial tolerance, line voltage, load currents and output voltages adjusted to factory settings.
3. Peak-to-peak with 20 MHz bandwidth and 10 µF in parallel with a 0.1 µF capacitor at rated line voltage and load ranges.
4. 4th output adjustable 3.3-25 V factory set at 5 V.
5. *Minimum loads are required when output set below 5 Volts
6. Remote inhibit resets OVP latch
7. LPQ173-C has no convection rating.

Note: -C suffix added to the model number indicates cover option and is limited to 50C operation.

Pin Assignments

Connector		LPQ172	LPQ173
SK1	PIN 1	N/C	V4 SWP
	PIN 2	5V Standby	5V Standby
	PIN 3	N/C	+V4 Sense
	PIN 4	V1 SWP	V1 SWP
	PIN 5	Common	Common
	PIN 6	+V1 sense	+V1 sense
	PIN 7	Sense common	Sense common
	PIN 8	Remote inhibit	Remote inhibit
	PIN 9	DC power good	DC power good
	PIN 10	POK	POK
SK2	PIN 1,2	+12 V	+12V
	PIN 3,4,5	Common	Common
	PIN 6	-12 V	-12V
	PIN 7	POK	POK
	PIN 8	+3.3 V to +25 V (Float)	N/C
	PIN 9	Common (Float)	N/C
SK3	TB-1, 3	COMMON	COMMON
	TB-2	+5 V (3.3V to 5.5V)	+5V (3.3V to 5.5V)
	TB-4	N/C	+5 (3.3V to 5.5V)
SK4	PIN 1	GROUND	GROUND
	PIN 3	LINE	LINE
	PIN 5	NEUTRAL	NEUTRAL

Mating Connectors

(SK4) AC Input:
Molex 09-50-8051 (USA)
Molex 09-91-0500 (UK)
PINS: 08-58-0111

(SK3) Main output:
Molex BB-124-08

(SK2) Aux DC Output/Power fail:
Molex 09-50-8091 (USA)
Molex 09-91-0900 (UK)
PINS: 08-58-0111

(SK1) Control Signals:
Molex 90142-0010 (USA)
PINS: 90119-2110 or
Amp: 87977-3
PINS: 87309-8

Astec connector kit #70-841-015, includes all of the above.

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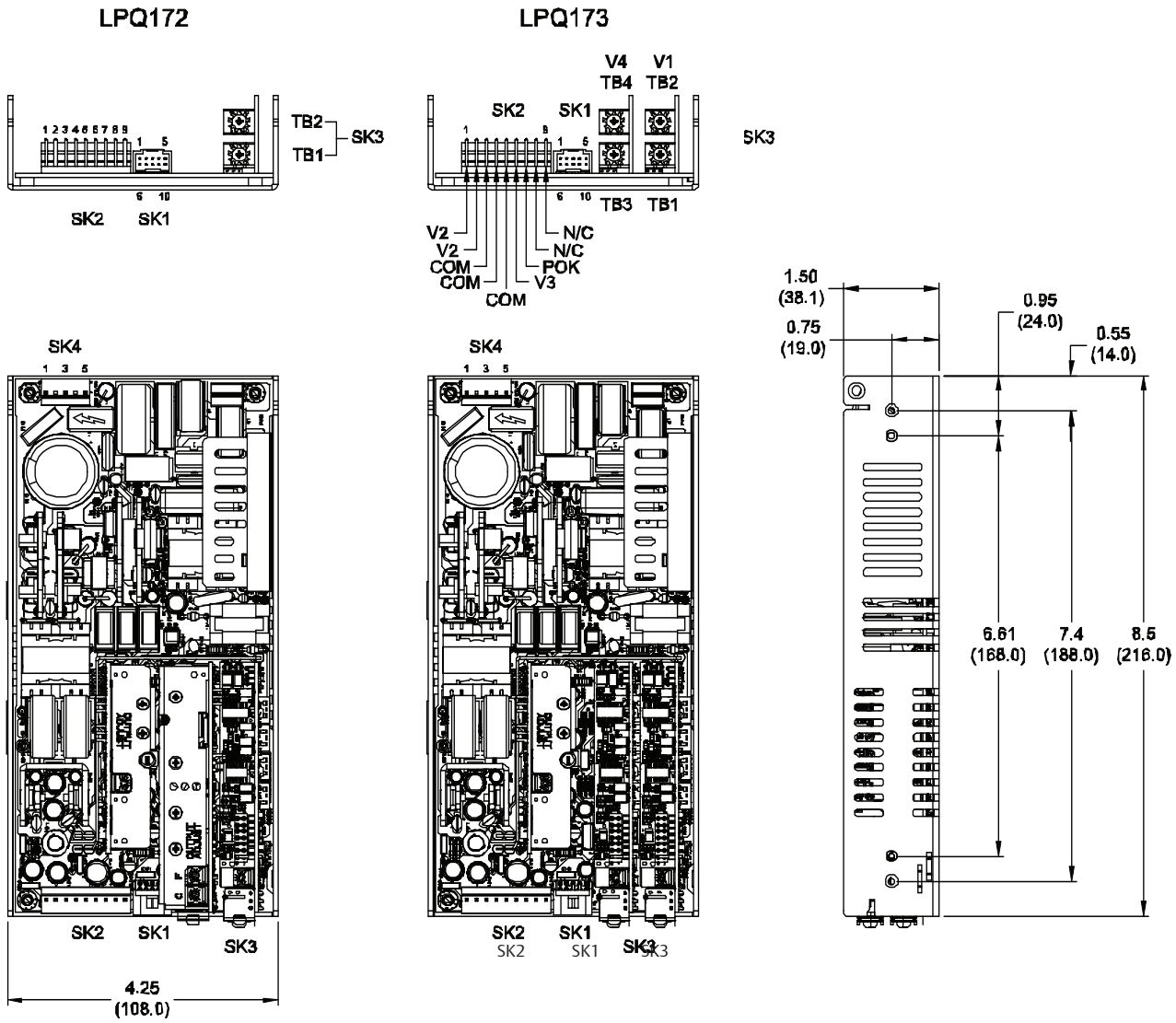
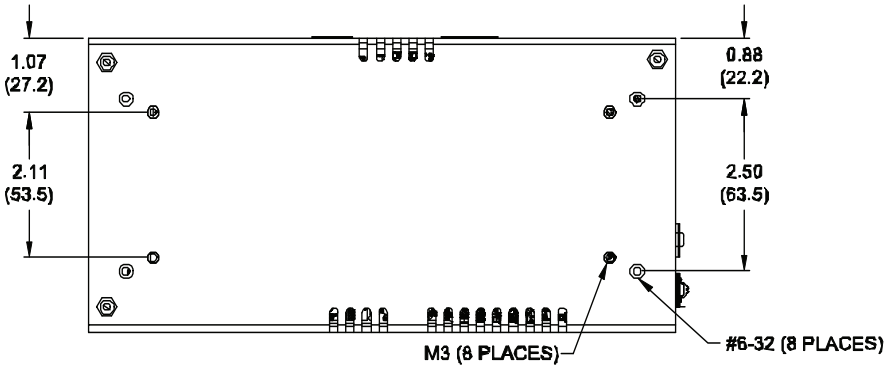
Mechanical Drawing





Notes:

1. Specifications subject to change without notice.
2. All dimensions in inches (mm), tolerance is ±0.02".
3. Specifications are for convection rating at factory settings unless otherwise stated.
4. Mounting screw maximum insertion depth is 0.12".
5. Warranty: 1 year
6. Weight: 2 lb / 0.91 kg